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Paraoxonase Activity in Obese Patients Following Exercise-Based Cardiac Rehabilitation Program

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Purpose: The effect of weight on paraoxonase activity was determined in 39 ischemic heart disease patients, 14 of whom with BMI 30 who underwent a 12week aerobic exercise training program.

Background: Paraoxonases have been found to perform a number of biological functions, though the primary role of this group of enzymes is still a topic of speculation. Some of the observed roles have revealed activities of anti-inflammatory, anti-oxidative, anti-atherogenic, anti-diabetic, anti-microbial and organophosphate-hydrolyzing properties

Methods: Paraoxonase activity was measured by its arylesterase activity Spectrophotometrically, at 250 degrees C, wavelength 270 nm.

Results: A 15.9 increase in paraoxonase activity was found following the 12week exercise program. In addition, there was a significant BMI (body mass index) effect with higher mean paraoxonase levels among women during both pre-exercise 16.8 and post-exercise 19.5.2 training, $p < 0.05$.

Conclusions: Aerobic exercise training was found to be an effective means in inducing plasma levels elevation of the antioxidative, antiatherogenic paraoxonase in patients with coronary artery disease, and particularly in obese patients.